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Nitrogen Newsletter is a summary of recent publications, news and reports related to the cycling, effects and management of nitrogen. Prepared by Mary O'Brien and Jana Compton. Contact Jana Compton with any questions (Compton.jana@epa.gov)

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Foliar nitrogen uptake from wet deposition and the relation with leaf wettability and water storage capacity

Water Air and Soil Pollution, 219(1-4): 43-57, July 2011. ISSN 0049-6979.

<http://dx.doi.org/10.1007/s11270-010-0682-8>

Anguelov, Gueorgui, Ivanka Anguelova, and Nathaniel O. Bailey.

Land-use impact on soil solution constituents from an Ultisol of North Florida

Nutrient Cycling in Agroecosystems, 90(2): 171-187, June 2011. ISSN 1385-1314.

<http://dx.doi.org/10.1007/s10705-010-9420-2>

Ballantyne, A. P., P. A. Baker, S. C. Fritz, and B. Poulter.

Climate-mediated nitrogen and carbon dynamics in a tropical watershed

Journal of Geophysical Research-Biogeosciences, 116: G02013, May 18, 2011. ISSN 0148-0227.

<http://dx.doi.org/10.1029/2010JG001496>

Bonton, Alexandre, Alain Rouleau, Christian Bouchard, and Manuel J. Rodriguez.

Nitrate transport modeling to evaluate source water protection scenarios for a municipal well in an agricultural area

Agricultural Systems, 104(5): 429-439, June 2011. ISSN 0308-521X.

<http://dx.doi.org/10.1016/j.agsy.2011.02.001>

Bosch, Nathan S., J. David Allan, David M. Dolan, Haejin Han, and R. Peter Richards.

Application of the Soil and Water Assessment Tool for six watersheds of Lake Erie: Model parameterization and calibration

Journal of Great Lakes Research, 37(2): 263-271, June 2011. ISSN 0380-1330.

<http://dx.doi.org/10.1016/j.jglr.2011.03.004>

Brigolin, Daniele, Tomas Lovato, Angelo Rubino, and Roberto Pastres.

Coupling early-diagenesis and pelagic biogeochemical models for estimating the seasonal variability of N and P fluxes at the sediment-water interface: Application to the northwestern Adriatic coastal zone

Journal of Marine Systems, 87(3-4): 239-255, September 2011. ISSN 0924-7963.

<http://dx.doi.org/10.1016/j.jmarsys.2011.04.006>

Cai, Meijun, John S. Schwartz, R. Bruce Robinson, Stephen E. Moore, and Matt A. Kulp.

Long-term annual and seasonal patterns of acidic deposition and stream water quality in a Great Smoky Mountains high-elevation watershed

Water Air and Soil Pollution, 219(1-4): 547-562, July 2011. ISSN 0049-6979.

<http://dx.doi.org/10.1007/s11270-010-0727-z>

Carey, Richard O., Kati W. Migliaccio, Yuncong Li, Bruce Schaffer, Gregory A. Kiker, and Mark T. Brown.

Land use disturbance indicators and water quality variability in the Biscayne Bay Watershed, Florida

Ecological Indicators, 11(5): 1093-1104, September 2011. ISSN 1470-160X.

<http://dx.doi.org/10.1016/j.ecolind.2010.12.009>

Cermenio, Pedro, Joon-Baek Lee, Kevin Wyman, Oscar Schofield, and Paul G. Falkowski.

Competitive dynamics in two species of marine phytoplankton under non-equilibrium conditions

Marine Ecology-Progress Series, 429: 19-28, 2011. ISSN 0171-8630.

<http://dx.doi.org/10.3354/meps09088>

Cherobaeva, A. S., A. K. Kizilova, A. L. Stepanov, and I. K. Kravchenko.

Molecular analysis of the diversity of nitrifying bacteria in the soils of the forest and steppe zones of European Russia

Microbiology, 80(3): 395-402, June 2011. ISSN 0026-2617.

<http://dx.doi.org/10.1134/S0026261711030064>

Compton, Jana E., John A. Harrison, Robin L. Dennis, Tara L. Greaver, Brian H. Hill, Stephen J. Jordan, Henry Walker and Holly V. Campbell.

Ecosystem services altered by human changes in the nitrogen cycle: a new perspective for US decision making

Ecology Letters, 14(8): 804-815, August 2011. ISSN 1461-0248.

<http://dx.doi.org/10.1111/j.1461-0248.2011.01631.x>

Cuadra, P. E., and P. Vidon.

Storm nitrogen dynamics in tile-drain flow in the US Midwest

Biogeochemistry, 104(1-3): 293-308, July 2011. ISSN 0168-2563.
<http://dx.doi.org/10.1007/s10533-010-9502-x>

Cuhel, Jiri, and Miloslav Simek.

Proximal and distal control by pH of denitrification rate in a pasture soil

Agriculture Ecosystems & Environment, 141(1-2): 230-233, April 2011. ISSN 0167-8809.
<http://dx.doi.org/10.1016/j.agee.2011.02.016>

Cusack, Daniela F., Whendee L. Silver, Margaret S. Torn, and William H. McDowell.

Effects of nitrogen additions on above- and belowground carbon dynamics in two tropical forests

Biogeochemistry, 104(1-3): 203-225, July 2011. ISSN 0168-2563.
<http://dx.doi.org/10.1007/s10533-010-9496-4>

Dahlmann, K., V. Grewe, M. Ponater, and S. Matthes.

Quantifying the contributions of individual NO_x sources to the trend in ozone radiative forcing

Atmospheric Environment, 45(17): 2860-2868, June 2011. ISSN 1352-2310.
<http://dx.doi.org/10.1016/j.atmosenv.2011.02.071>

Damgaard, Christian, Lennarth Jensen, Lise Marie Frohn, Finn Borchsenius, Knud Erik Nielsen, Rasmus Ejrnaes, and Carly J. Stevens.

The effect of nitrogen deposition on the species richness of acid grasslands in Denmark: A comparison with a study performed on a European scale

Environmental Pollution, 159(7): 1778-1782, July 2011. ISSN 0269-7491.
<http://dx.doi.org/10.1016/j.envpol.2011.04.003>

Delgado-Baquerizo, M., F. Covelo, and A. Gallardo.

Dissolved organic nitrogen in Mediterranean ecosystems

Pedosphere, 21(3): 309-318, June 2011. ISSN 1002-0160.
[http://dx.doi.org/10.1016/S1002-0160\(11\)60131-8](http://dx.doi.org/10.1016/S1002-0160(11)60131-8)

Deng, Jia, Bo Zhu, Zaixing Zhou, Xunhua Zheng, Changsheng Li, Tao Wang, and Jiali Tang.

Modeling nitrogen loadings from agricultural soils in southwest China with modified DNDC

Journal of Geophysical Research-Biogeosciences, 116: G02020, June 3, 2011. ISSN 0148-0227.
<http://dx.doi.org/10.1029/2010JG001609>

Eriksson, Ljusk Ola, Stefan Lofgren, and Karin Ohman.

Implications for forest management of the EU Water Framework Directive's stream water quality requirements - A modeling approach

Forest Policy and Economics, 13(4): 284-291, April 2011. ISSN 1389-9341.
<http://dx.doi.org/10.1016/j.forpol.2011.02.002>

Eshel, Gidon, Pamela A. Martin, and Esther E. Bowen.

Land use and reactive nitrogen discharge: effects of dietary choices

Earth Interactions, 14(21):1-15, December 2010. ISSN 1087-3562.
<http://dx.doi.org/10.1175/2010EI321.1>

Fanjul, Eugenia, Maria C. Bazterrica, Mauricio Escapa, Maria A. Grela, and Oscar Iribarne,
Impact of crab bioturbation on benthic flux and nitrogen dynamics of Southwest Atlantic intertidal marshes and mudflats

Estuarine Coastal and Shelf Science, 92(4): 629-638, May 20, 2011. ISSN 0272-7714.
<http://dx.doi.org/10.1016/j.ecss.2011.03.002>

Findlay, S. E. G., P. J. Mulholland, S. K. Hamilton, J. L. Tank, M. J. Bernot, A. J. Burgin, C. L. Crenshaw, W. K. Dodds, N. B. Grimm, W. H. McDowell, J. D. Potter, and D. J. Sobota.
Cross-stream comparison of substrate-specific denitrification potential
Biogeochemistry, 104(1-3): 381-392, July 2011. ISSN 0168-2563.
<http://dx.doi.org/10.1007/s10533-010-9512-8>

Garland, Gina M., Emma Suddick, Martin Burger, W. R. Horwath, and Johan Six.
Direct N₂O emissions following transition from conventional till to no-till in a cover cropped Mediterranean vineyard (*Vitis vinifera*)
Agriculture Ecosystems & Environment, 141(1-2): 234-239, April 2011. ISSN 0167-8809.
<http://dx.doi.org/10.1016/j.agee.2011.02.017>

Gras, Anna, Marta Ginovart, Joaquim Valls, and Philippe C. Baveye.
Individual-based modelling of carbon and nitrogen dynamics in soils: Parameterization and sensitivity analysis of microbial components
Ecological Modelling, 222(12): 1998-2010, June 24, 2011. ISSN 0304-3800.
<http://dx.doi.org/10.1016/j.ecolmodel.2011.03.009>

Guay, Mireille, David M. Stieb, and Marc Smith-Doiron.
Assessment of long-term exposure to air pollution in a longitudinal national health survey
Journal of Exposure Science and Environmental Epidemiology, 21(4): 337-342, July-August 2011. ISSN 1559-0631.
<http://dx.doi.org/10.1038/jes.2010.37>

Hartman, Melannie D., Emily R. Merchant, William J. Parton, Myron P. Gutmann, Susan M. Lutz, and Stephen A. Williams.
Impact of historical land-use changes on greenhouse gas exchange in the US Great Plains, 1883-2003
Ecological Applications, 21(4): 1105-1119, June 2011. ISSN 1051-0761.
<http://dx.doi.org/10.1890/10-0036.1>

Hill, Alan R.
Buried organic-rich horizons: their role as nitrogen sources in stream riparian zones
Biogeochemistry, 104(1-3): 347-363, July 2011. ISSN 0168-2563.
<http://dx.doi.org/10.1007/s10533-010-9507-5>

Hossain, M. Zabed, and Shu-ichi Sugiyama.

Influences of plant litter diversity on decomposition, nutrient mineralization and soil microbial community structure

Grassland Science, 57(2): 72-80, June 2011. ISSN 1744-6961.

<http://dx.doi.org/10.1111/j.1744-697X.2011.00211.x>

Hudak, P. F.

Spatial distribution of solutes in aquifer outcrop zones along the Brazos River, East-Central Texas

International Journal of Environmental Research, 5(3): 595-602, Summer 2011. ISSN 1735-6865.

http://www.ijer.ir/?_action=articleInfo&article=366

Huff, D. M., P. L. Joyce, G. J. Fochesatto, and W. R. Simpson.

Deposition of dinitrogen pentoxide, N₂O₅, to the snowpack at high latitudes

Atmospheric Chemistry and Physics, 11(10): 4929-4938, 2011. ISSN 1680-7316.

<http://dx.doi.org/10.5194/acp-11-4929-2011>

Jiang, Fu Ying, Xin Chen, and An Cheng Luo.

A comparative study on the growth and nitrogen and phosphorus uptake characteristics of 15 wetland species

Chemistry and Ecology, 27(3): 263-272, 2011. ISSN 0275-7540.

<http://dx.doi.org/10.1080/02757540.2011.561788>

Kadoya, Taku, Munemitsu Akasaka, Takashi Aoki, and Noriko Takamura.

A proposal of framework to obtain an integrated biodiversity indicator for agricultural ponds incorporating the simultaneous effects of multiple pressures

Ecological Indicators, 11(5): 1396-1402, September 2011. ISSN 1470-160X.

<http://dx.doi.org/10.1016/j.ecolind.2011.03.001>

Karl, Matthias, Richard F. Wright, Tore F. Berglen, and Bruce Denby.

Worst case scenario study to assess the environmental impact of amine emissions from a CO₂ capture plant

International Journal of Greenhouse Gas Control, 5(3, Sp. Iss.): 439-447, May 2011. ISSN 1750-5836.

<http://dx.doi.org/10.1016/j.ijggc.2010.11.001>

Keil, Daniel, Annabel Meyer, Doreen Berner, Christian Poll, Andre Schuetzenmeister, Hans-Peter Piepho, Anna Vlasenko, Laurent Philippot, Michael Schloter, Ellen Kandeler, and Sven Marhan.

Influence of land-use intensity on the spatial distribution of N-cycling microorganisms in grassland soils

FEMS Microbiology Ecology, 77(1): 95-106, July 2011. ISSN 0168-6496.

<http://dx.doi.org/10.1111/j.1574-6941.2011.01091.x>

Kelly, Charlene N., Stephen H. Schoenholtz, and Mary Beth Adams.

Soil properties associated with net nitrification following watershed conversion from Appalachian hardwoods to Norway spruce

Plant and Soil, 344(1-2): 361-376, July 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-011-0755-5>

Kemanian, Armen R., Stefan Julich, Valipuram S. Manoranjan, and Jeffrey R. Arnold.

Integrating soil carbon cycling with that of nitrogen and phosphorus in the watershed model SWAT: Theory and model testing

Ecological Modelling, 222(12): 1913-1921, June 24, 2011. ISSN 0304-3800.

<http://dx.doi.org/10.1016/j.ecolmodel.2011.03.017>

Ket, Wesley A., Joseph P. Schubauer-Berigan, and Christopher B. Craft.

Effects of five years of nitrogen and phosphorus additions on a Zizaniopsis miliacea tidal freshwater marsh

Aquatic Botany, 95(1): 17-23, July 2011. ISSN 0304-3770.

<http://dx.doi.org/10.1016/j.aquabot.2011.03.003>

Kopacek, Jiri, and Maximilian Posch.

Anthropogenic nitrogen emissions during the Holocene and their possible effects on remote ecosystems

Global Biogeochemical Cycles, 25: GB2017, May 25, 2011. ISSN 0886-6236.

<http://dx.doi.org/10.1029/2010GB003779>

Kreiling, Rebecca M., William B. Richardson, Jennifer C. Cavanaugh, and Lynn A. Bartsch.

Summer nitrate uptake and denitrification in an upper Mississippi River backwater lake: the role of rooted aquatic vegetation

Biogeochemistry, 104(1-3): 309-324, July 2011. ISSN 0168-2563.

<http://dx.doi.org/10.1007/s10533-010-9503-9>

Lam, Y. F., J. S. Fu, S. Wu, and L. J. Mickley.

Impacts of future climate change and effects of biogenic emissions on surface ozone and particulate matter concentrations in the United States

Atmospheric Chemistry and Physics, 11(10): 4789-4806, 2011. ISSN 1680-7316.

<http://dx.doi.org/10.5194/acp-11-4789-2011>

Leibensperger, Eric M., Loretta J. Mickley, Daniel J. Jacob, and Steven R. H. Barrett.

Intercontinental influence of NO_x and CO emissions on particulate matter air quality

Atmospheric Environment, 45(19): 3318-3324, June 2011. ISSN 1352-2310.

<http://dx.doi.org/10.1016/j.atmosenv.2011.02.023>

Levia, Delphis F., John T. Van Stan, Courtney M. Siegert, Shreeram P. Inamdar, Myron J. Mitchell, Susanna M. Mage, and Patrick J. McHale.

Atmospheric deposition and corresponding variability of stemflow chemistry across temporal scales in a mid-Atlantic broadleaved deciduous forest

Atmospheric Environment, 45(18): 3046-3054, June 2011. ISSN 1352-2310.

<http://dx.doi.org/10.1016/j.atmosenv.2011.03.022>

Loubet, Benjamin, Patricia Laville, Simon Lehuger, Eric Larmanou, Christophe Flechard, Nicolas Mascher, Sophie Genermont, Romain Roche, Rossana M. Ferrara, Patrick Stella, Erwan Personne, Brigitte Durand, Celine Decuq, Dominique Flura, Sylvie Masson, Olivier Fanucci, Jean-Noel Rampon, Jan Siemens, Reimo Kindler, Benoit Gabrielle, Marion Schrumpf, Pierre Cellier.

Carbon, nitrogen and greenhouse gases budgets over a four years crop rotation in northern France

Plant and Soil, 343(1-2): 109-137, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-011-0751-9>

Ludwig, Bernard, Nadine Jaeger, Eckart Priesack, and Heinz Flessa.

Application of the DNDC model to predict N₂O emissions from sandy arable soils with differing fertilization in a long-term experiment

Journal of Plant Nutrition and Soil Science, 174(3): 350-358, June 2011. ISSN 1436-8730.

<http://dx.doi.org/10.1002/jpln.201000040>

Matheson, F. E., J. L. Tank, and K. J. Costley.

Land use influences stream nitrate uptake in the Lake Taupo catchment

New Zealand Journal of Marine and Freshwater Research, 45(2): 287-300, June 2011. ISSN 0028-8330.

<http://dx.doi.org/10.1080/00288330.2011.562143>

Mehaffey, Megan, Rick Van Remortel, Elizabeth Smith, and Randy Bruins.

Developing a dataset to assess ecosystem services in the Midwest United States

International Journal of Geographical Information Science, 25(4): 681-695, 2011. ISSN 1365-8816.

<http://dx.doi.org/10.1080/13658816.2010.497148>

Milne, A. E., K. A. Haskard, C. P. Webster, I. A. Truan, K. W. T. Goulding, and R. M. Lark.
Wavelet analysis of the correlations between soil properties and potential nitrous oxide emission at farm and landscape scales

European Journal of Soil Science, 62(3): 467-478, June 2011. ISSN 1351-0754.

<http://dx.doi.org/10.1111/j.1365-2389.2011.01361.x>

Moulin, Alan P., Mario Tenuta, David A. Lobb, Adedeji S. Dunmola, and Priyantha Yapa.
Probability distribution functions for short-term daily nitrous oxide fluxes in a prairie pothole agricultural landscape in western Canada

Canadian Journal of Soil Science, 91(2): 303-307, May 2011. ISSN 0008-4271.

<http://dx.doi.org/10.4141/CJSS10070>

Muller-Karulis, Barbel, and Juris Aigars.

Modeling the long-term dynamics of nutrients and phytoplankton in the Gulf of Riga

Journal of Marine Systems, 87(3-4): 161-176, September 2011. ISSN 0924-7963.

<http://dx.doi.org/10.1016/j.jmarsys.2011.03.006>

Nave, Lucas E., Eric D. Vance, Christopher W. Swanston, and Peter S. Curtis.

Fire effects on temperate forest soil C and N storage

Ecological Applications, 21(4): 1189-1201, June 2011. ISSN 1051-0761.

<http://dx.doi.org/10.1890/10-0660.1>

Nebert, Lucas D., Jaap Bloem, Ingrid M. Lubbers, and Jan Willem van Groenigen.

Association of earthworm-denitrifier interactions with increased emission of nitrous oxide from soil mesocosms amended with crop residue

Applied and Environmental Microbiology, 77(12): 4097-4104, June 2011. ISSN 0099-2240.

<http://dx.doi.org/10.1128/AEM.00033-11>

Niboyet, Audrey, Jamie R. Brown, Paul Dijkstra, Joseph C. Blankinship, Paul W. Leadley, Xavier Le Roux, Laure Barthes, Romain L.Barnard, Christopher B. Field, and Bruce A. Hungate.

Global change could amplify fire effects on soil greenhouse gas emissions

PLoS One, 6(6): e20105, June 8, 2011. ISSN 1932-6203.

<http://dx.doi.org/10.1371/journal.pone.0020105>

Nylinder, Josefina, Maria Stenberg, Per-Erik Jansson, Asa Kasimir Klemedtsson, Per Weslien, and Leif Klemedtsson.

Modelling uncertainty for nitrate leaching and nitrous oxide emissions based on a Swedish field experiment with organic crop rotation

Agriculture Ecosystems & Environment, 141(1-2): 167-183, April 2011. ISSN 0167-8809.

<http://dx.doi.org/10.1016/j.agee.2011.02.027>

O'Brien, D., L. Shalloo, F. Buckley, B. Horan, C. Grainger, and M. Wallace.

The effect of methodology on estimates of greenhouse gas emissions from grass-based dairy systems

Agriculture Ecosystems & Environment, 141(1-2): 39-48, April 2011. ISSN 0167-8809.

<http://dx.doi.org/10.1016/j.agee.2011.02.008>

Oelmann, Yvonne, Nina Buchmann, Gerd Gleixner, Maike Habekost, Christiane Roscher, Stephan Rosenkranz, Ernst-Detlef Schulze, Sibylle Steinbeiss, Vicky M. Temperton, Alexandra Weigelt, Wolfgang W. Weisser, and Wolfgang Wilcke.

Plant diversity effects on aboveground and belowground N pools in temperate grassland ecosystems: Development in the first 5 years after establishment

Global Biogeochemical Cycles, 25: GB2014, May 25, 2011. ISSN 0886-6236.

<http://dx.doi.org/10.1029/2010GB003869>

Ozkundakci, D., D. P. Hamilton, and D. Trolle.

Modelling the response of a highly eutrophic lake to reductions in external and internal nutrient loading

New Zealand Journal of Marine and Freshwater Research, 45(2): 165-185, June 2011. ISSN 0028-8330.

<http://dx.doi.org/10.1080/00288330.2010.548072>

Pappa, Valentini A., Robert M. Rees, Robin L. Walker, John A. Baddeley, and Christine A. Watson.

Nitrous oxide emissions and nitrate leaching in an arable rotation resulting from the presence of an intercrop

Agriculture Ecosystems & Environment, 141(1-2): 153-161, April 2011. ISSN 0167-8809.

<http://dx.doi.org/10.1016/j.agee.2011.02.025>

Parker, Sophie S., and Joshua P. Schimel.

Invasive grasses increase nitrogen availability in California grassland soils

Invasive Plant Science and Management, 3(1): 40-47, January-March 2010. ISSN 1939-7291.

<http://dx.doi.org/10.1614/IPSM-09-046.1>

Petersen, Soren O., James K. Mutegi, Elly M. Hansen, and Lars J. Munkholm.

Tillage effects on N₂O emissions as influenced by a winter cover crop

Soil Biology & Biochemistry, 43(7): 1509-1517, July 2011. ISSN 0038-0717.

<http://dx.doi.org/10.1016/j.soilbio.2011.03.028>

Porubsky, W. P., S. B. Joye, W. S. Moore, K. Tuncay, and C. Meile.

Field measurements and modeling of groundwater flow and biogeochemistry at Moses Hammock, a backbarrier island on the Georgia coast

Biogeochemistry, 104(1-3): 69-90, July 2011. ISSN 0168-2563.

<http://dx.doi.org/10.1007/s10533-010-9484-8>

Qiu, Jianjun, Hu Li, Ligang Wang, Huajun Tang, Changsheng Li, and Eric Van Ranst.

GIS-model based estimation of nitrogen leaching from croplands of China

Nutrient Cycling in Agroecosystems, 90(2): 243-252, June 2011. ISSN 1385-1314.

<http://dx.doi.org/10.1007/s10705-011-9425-5>

Rao, Leela E., Robert J. Steers, and Edith B. Allen.

Effects of natural and anthropogenic gradients on native and exotic winter annuals in a southern California Desert

Plant Ecology, 212(7): 1079-1089, July 2011. ISSN 1385-0237.

<http://dx.doi.org/10.1007/s11258-010-9888-5>

Robertson, G. Philip, Stephen K. Hamilton, Stephen J. Del Grosso, and William J. Parton.

The biogeochemistry of bioenergy landscapes: carbon, nitrogen, and water considerations

Ecological Applications, 21(4): 1055-1067, June 2011. ISSN 1051-0761.

<http://dx.doi.org/10.1890/09-0456.1>

Rush, Scott A., Stephanie Verkoeyen, Tammy Dobbie, Sandy Dobbyn, Craig E. Hebert, Joel Gagnon, and Aaron T. Fisk.

Influence of increasing populations of Double-crested Cormorants on soil nutrient characteristics of nesting islands in western Lake Erie

Journal of Great Lakes Research, 37(2): 305-309, June 2011. ISSN 0380-1330.

<http://dx.doi.org/10.1016/j.jglr.2011.03.006>

Schmidt, Christoph S., David J. Richardson, and Elizabeth M. Baggs.
Constraining the conditions conducive to dissimilatory nitrate reduction to ammonium in temperate arable soils
Soil Biology & Biochemistry, 43(7): 1607-1611, July 2011. ISSN 0038-0717.
<http://dx.doi.org/10.1016/j.soilbio.2011.02.015>

Selbie, Daniel T., Jon N. Sweetman, Peter Etherton, Kim D. Hyatt, D. Paul Rankin, Bruce P. Finney, and John P. Smol.

Climate change modulates structural and functional lake ecosystem responses to introduced anadromous salmon

Canadian Journal of Fisheries and Aquatic Sciences, 68(4): 675-692, April 2011. ISSN 0706-652X.
<http://dx.doi.org/10.1139/F11-006>

Singh, Brajesh K., Kevin Tate, Nadine Thomas, Des Ross, and Jagrati Singh.

Differential effect of afforestation on nitrogen-fixing and denitrifying communities and potential implications for nitrogen cycling

Soil Biology & Biochemistry, 43(7): 1426-1433, July 2011. ISSN 0038-0717.
<http://dx.doi.org/10.1016/j.soilbio.2011.03.007>

Smith, D. R., G. Hernandez-Ramirez, S. D. Armstrong, D. L. Bucholtz, and D. E. Stott.

Fertilizer and tillage management impacts on non-carbon-dioxide greenhouse gas emissions

Soil Science Society of America Journal, 75(3): 1070-1082, May-June 2011. ISSN 0361-5995.
<http://dx.doi.org/10.2136/sssaj2009.0354>

Stewart, Katherine J., Eric G. Lamb, Darwyn S. Coxson, and Steven D. Siciliano.

Bryophyte-cyanobacterial associations as a key factor in N₂-fixation across the Canadian Arctic

Plant and Soil, 344(1-2): 335-346, July 2011. ISSN 0032-079X.
<http://dx.doi.org/10.1007/s11104-011-0750-x>

Stewart, Katherine J., Darwyn Coxson, and Paul Grogan.

Nitrogen inputs by associative cyanobacteria across a low Arctic tundra landscape

Arctic Antarctic and Alpine Research, 43(2): 267-278, May 2011. ISSN 1523-0430.
<http://dx.doi.org/10.1657/1938-4246-43.2.267>

Taylor, David I., Candace A. Oviatt, and David G. Borkman.

Non-linear responses of a coastal aquatic ecosystem to large decreases in nutrient and organic loadings

Estuaries and Coasts, 34(4): 745-757, July 2011. ISSN 1559-2723.
<http://dx.doi.org/10.1007/s12237-010-9312-3>

Tenuta, Mario, and Brad Sparling.

A laboratory study of soil conditions affecting emissions of nitrous oxide from packed cores subjected to freezing and thawing

Canadian Journal of Soil Science, 91(2): 223-233, May 2011. ISSN 0008-4271.
<http://dx.doi.org/10.4141/CJSS09051>

Thieu, Vincent, Gilles Billen, Josette Garnier, and Marc Benoit.
Nitrogen cycling in a hypothetical scenario of generalised organic agriculture in the Seine, Somme and Scheldt watersheds

Regional Environmental Change, 11(2): 359-370, June 2011. ISSN 1436-3798.
<http://dx.doi.org/10.1007/s10113-010-0142-4>

Thompson, R. L., C. Gerbig, and C. Roedenbeck.
A Bayesian inversion estimate of N₂O emissions for western and central Europe and the assessment of aggregation errors

Atmospheric Chemistry and Physics, 11(7): 3443-3458, 2011. ISSN 1680-7316.
<http://dx.doi.org/10.5194/acp-11-3443-2011>

Tian, Yuhua, Linzhang Yang, Bin Yin, and Zhaoliang Zhu.
Wet deposition N and its runoff flow during wheat seasons in the Tai Lake Region, China
Agriculture Ecosystems & Environment, 141(1-2): 224-229, April 2011. ISSN 0167-8809.
<http://dx.doi.org/10.1016/j.agee.2011.02.012>

Uri, Veiko, Krista Lohmus, Uelo Mander, Ivika Ostonen, Juergen Aosaar, Martin Maddison, Helja-Sisko Helmisaari, and Juergen Augustin.
Long-term effects on the nitrogen budget of a short-rotation grey alder (*Alnus incana* (L.) Moench) forest on abandoned agricultural land
Ecological Engineering, 37(6): 920-930, June 2011. ISSN 0925-8574.
<http://dx.doi.org/10.1016/j.ecoleng.2011.01.016>

Van den Meersche, Karel, Karline Soetaert, and Jack J. Middelburg.
Plankton dynamics in an estuarine plume: a mesocosm C-13 and N-15 tracer study
Marine Ecology-Progress Series, 429:29-43, 2011. ISSN 0171-8630.
<http://dx.doi.org/10.3354/meps09097>

Velders, Guus J. M., Gerben P. Geilenkirchen, and Ronald de Lange.
Higher than expected NO_x emission from trucks may affect attainability of NO₂ limit values in the Netherlands
Atmospheric Environment, 45(18): 3025-3033, June 2011. ISSN 1352-2310.
<http://dx.doi.org/10.1016/j.atmosenv.2011.03.023>

Veraart, Annelies J., Wilco J. J. de Bruijne, Jeroen J. M. de Klein, Edwin T. H. M. Peeters, and Marten Scheffer.
Effects of aquatic vegetation type on denitrification
Biogeochemistry, 104(1-3): 267-274, July 2011. ISSN 0168-2563.
<http://dx.doi.org/10.1007/s10533-010-9500-z>

Wang, Tao, and Bo Zhu.

Nitrate loss via overland flow and interflow from a sloped farmland in the hilly area of purple soil, China

Nutrient Cycling in Agroecosystems, 90(3): 309-319, July 2011. ISSN 1385-1314.

<http://dx.doi.org/10.1007/s10705-011-9431-7>

Wang, Xuelei, Qiao Wang, Shengtian Yang, Donghai Zheng, Chuanqing Wu, and C. M. Mannaerts.

Evaluating nitrogen removal by vegetation uptake using satellite image time series in riparian catchments

Science of the Total Environment, 409(13): 2567-2576, June 1, 2011. ISSN 0048-9697.

<http://dx.doi.org/10.1016/j.scitotenv.2011.03.023>

Zhang, Tao.

Distance-decay patterns of nutrient loading at watershed scale: Regression modeling with a special spatial aggregation strategy

Journal of Hydrology, 402(3-4): 239-249, May 25, 2011. ISSN 0022-1694.

<http://dx.doi.org/10.1016/j.jhydrol.2011.03.017>

News

Major flooding on the Mississippi River likely to cause large Gulf of Mexico dead zone

NOAA News, June 14, 2011

http://www.noaanews.noaa.gov/stories2011/20110614_deadzone.html

Hidden value of nature revealed in groundbreaking study

Defra News, June 2, 2011

<http://www.defra.gov.uk/news/2011/06/02/hidden-value-of-nature-revealed/>

Black, Richard.

Nature ‘is worth billions’ to UK

BBC News, June 1, 2011

<http://www.bbc.co.uk/news/science-environment-13616543>

For BNA subscribers (including EPA staff):

Water pollution: EPA official defends nutrient policy; state officials resist numeric standards

BNA Daily Environment Report, June 27, 2011

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=21190691&vname=dennottallissue&wsn=493962000&searchid=15179967&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=0

Air pollution: EPA should include nitrous oxide in review of nitric acid plant standards, report says

BNA Daily Environment Report, June 24, 2011

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=21183135&vname=dennotallissues&wsn=493987000&searchid=15179967&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=0

Water pollution: State, industry, farm groups say EPA policy on nutrients ‘not scientifically defensible’

BNA Daily Environment Report, June 24, 2011

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=21183150&vname=dennotallissues&wsn=493997000&searchid=15179967&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=0

Air pollution: OMB reviewing EPA proposal to revise secondary air standards for nitrogen, sulfur

BNA Daily Environment Report, June 20, 2011

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=21069672&vname=dennotallissues&wsn=494121500&searchid=15179967&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=1

Water pollution: Marine consortium predicts formation of largest hypoxic zone in Gulf of Mexico

BNA Daily Environment Report, June 15, 2011

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=21059221&vname=dennotallissues&wsn=494233000&searchid=15179967&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=1

Water pollution: EPA says it could repeal Florida rule, if state develops nutrient standards

BNA Daily Environment Report, June 15, 2011

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=21059224&vname=dennotallissues&wsn=494232500&searchid=15179967&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=1

For Greenwire subscribers (including EPA staff):

Chesapeake Bay: Homebuilders sue to block EPA cleanup program

Greenwire, June 28, 2011

<http://www.eenews.net/Greenwire/2011/06/28/archive/3>

Water pollution: States seek flexibility on EPA nutrient standards, enforcement

E&ENews PM, June 24, 2011

<http://www.eenews.net/eenewspm/2011/06/24/archive/4>

Water: House panel to take up bill to fight algae blooms, dead zones

E&E Daily, June 20, 2011

<http://www.eenews.net/EEDaily/2011/06/20/archive/17>

Water: EPA's nutrient pollution policies to face scrutiny

E&E Daily, June 20, 2011
<http://www.eenews.net/EEDaily/2011/06/20/archive/19>

Air pollution: White House starts reviewing acid rain rules
Greenwire, June 17, 2011
<http://www.eenews.net/Greenwire/2011/06/17/archive/3>

Water pollution: Gulf dead zone could be largest-ever by 10 percent -- USGS
Greenwire, June 14, 2011
<http://www.eenews.net/Greenwire/2011/06/14/archive/21>

Water: Scientists urge renewal of algae bloom, dead zone research program
E&E Daily, June 2, 2011
<http://www.eenews.net/EEDaily/2011/06/02/archive/8>

For Inside EPA subscribers (including EPA staff):

States brace for new EPA push on nutrients ahead of Mississippi decision
Inside EPA Water Policy Report, June 20, 2011
<http://insideepa.com/Water-Policy-Report/Water-Policy-Report-06/20/2011/states-brace-for-new-epa-push-on-nutrients-ahead-of-mississippi-decision/menu-id-155.html>

Advisers push strict EPA action on eve of Mississippi nutrient decision
Inside EPA Water Policy Report, June 20, 2011
<http://insideepa.com/Water-Policy-Report/Water-Policy-Report-06/20/2011/advisers-push-strict-epa-action-on-eve-of-mississippi-nutrient-decision/menu-id-155.html>

EPA sets high bar for Florida to win repeal of numeric nutrient criteria
Inside EPA Daily News, June 16, 2011
<http://insideepa.com/201106162367213/EPA-Daily-News/Daily-News/epa-sets-high-bar-for-florida-to-win-repeal-of-numeric-nutrient-criteria/menu-id-95.html>

After Florida, EPA vows to raise bar for tightening water quality standards
Inside EPA Water Policy Report, June 6, 2011
<http://insideepa.com/Water-Policy-Report/Water-Policy-Report-06/06/2011/after-florida-epa-vows-to-raise-bar-for-tightening-water-quality-standards/menu-id-155.html>

Under threat of suit, EPA readies response on Mississippi nutrient petition
Inside EPA, June 3, 2011
<http://insideepa.com/Inside-EPA/Inside-EPA-06/03/2011/under-threat-of-suit-epa-readies-response-on-mississippi-nutrient-petition/menu-id-153.html>

Reports

Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions

Memorandum from Nancy K. Stoner, Acting Assistant Administrator, U.S. Environmental Protection Agency, Office of Water, March 16, 2011

[http://op.bna.com/env.nsf/id/jsun-8ezsva/\\$File/EPAnutrient%20memo.pdf](http://op.bna.com/env.nsf/id/jsun-8ezsva/$File/EPAnutrient%20memo.pdf)

Long Overdue: EPA and Nitric Acid Plant Regulation

New York: New York University School of Law, Institute for Policy Integrity, June 2011.

http://policyintegrity.org/files/publications/Long_Overdue_EPA_and_Nitric_Acid_Plant_Regulation.pdf

Re: Numeric Nutrient Criteria

Letter from National and Multi-State Organizations to the Honorable Lisa Jackson, Administrator, U.S. Environmental Protection Agency, June 23, 2011.

[http://op.bna.com/env.nsf/id/jsun-8j4u2g/\\$File/Numeric%20Nutrient%20Criteria%20letter.pdf](http://op.bna.com/env.nsf/id/jsun-8j4u2g/$File/Numeric%20Nutrient%20Criteria%20letter.pdf)

Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur, January 14, 2011 Version.

Washington, D.C.: U.S. Environmental Protection Agency, 2011.

<http://www.epa.gov/ttn/naaqs/standards/no2so2sec/data/20110114pamain.pdf>

2011 Forecast: Summer Hypoxic Zone Size, Northern Gulf of Mexico

Baton Rouge, La.: Louisiana Universities Marine Consortium and Louisiana State University, 2011.

[http://op.bna.com/env.nsf/id/fwhe-8hts23/\\$File/hypoxia%20forecast%202011.pdf](http://op.bna.com/env.nsf/id/fwhe-8hts23/$File/hypoxia%20forecast%202011.pdf)

Letter from Nancy K. Stoner, Acting Assistant Administrator, Office of Water, U.S. Environmental Protection Agency, to Herschel T. Vinyard Jr., Secretary, Florida Department of Environmental Protection, June 13, 2011

[http://op.bna.com/env.nsf/id/jsun-8htkyl/\\$File/EPAFLAresponse.pdf](http://op.bna.com/env.nsf/id/jsun-8htkyl/$File/EPAFLAresponse.pdf)

Florida Department of Environmental Protection's Petition for Withdrawal of EPA's 303(c)(4)(B) Determination for Florida, Repeal of 40 C.F.R. 131.43, and Related Actions.

[http://op.bna.com/env.nsf/id/phey-8g6s6u/\\$File/Petition%20for%20Withdrawal%20of%20EPA's%20Determination%2004222011.pdf](http://op.bna.com/env.nsf/id/phey-8g6s6u/$File/Petition%20for%20Withdrawal%20of%20EPA's%20Determination%2004222011.pdf)

Web Pages

Federal Water Quality Standards for the State of Florida

http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm

Upcoming Events

Sixth International Symposium on Non-CO₂ Greenhouse Gases (NCGG-6) – Science, Policy and Integration, Amsterdam, the Netherlands, November 2-4, 2011

<http://www.ncgg.info/>